

Amendments to the Claims

1. (Currently Amended) A catalyst composition which is the reaction product of (a) and (b) wherein (a) is a product of mixing (i) a compound containing at least one epoxy moiety with (ii) a compound containing an alcohol, amine, thiol or carboxylic acid moiety and an aldehyde or ketone moiety, or a product of an isocyanate with an alcohol having an aldehyde or ketone functionality, and (b) is a compound containing at least one primary amine and at least one tertiary amine moiety. ~~the catalyst has at least one imine linkage and at least one tertiary amine moiety wherein the imine linkage is obtained by the reaction mixture comprising (i) a compound having at least one aldehyde or ketone moiety and (ii) a compound having at least one primary amine moiety wherein the tertiary amine moiety is present on the compound of (i), the compound of (ii) or on both compounds of (i) and (ii).~~

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Original) The catalyst of Claim 1 wherein the compound having both primary and tertiary amine moieties is represented by the formula:

$$\text{H}_2\text{N} - \text{R}^8 - \text{N}(\text{R}^9)_2$$
 where R^8 is an aliphatic or cyclic chain having 1 to 20 carbon atoms and R^9 is a C1 to C3 alkyl group.

7. (Original) The catalyst of Claim 1 wherein the compound having both primary and tertiary amine moieties is 3-(dimethylamino)-propylamine, 1-(3-aminopropyl)-imidazole, 1-(3-aminopropyl)-2-methylimidazole, N,N-dimethyldipropylenetriamine, N,N-dimethylethylene diamine, N,N-diethylethylene diamine, N,N-dibutylethylene diamine, 3-(diethylamino)-propylamine, 3-(dibutylamino)-propylamine, N,N,2,2-tetramethyl-1,3-propanediamine, 2-amino-5-diethylaminopentane, N-methyl- (N'-aminoethyl)-piperazine, 1,4-bis(3-aminopropyl)piperazine, 3-aminoquinuclidine, 4-(2-aminoethyl)morpholine, 4-(3-aminopropyl)morpholine, N,N-dimethyl-1,4-phenylenediamine, 5-amino-1-ethylpyrazole, 2-aminopyridine, 2-(aminomethyl)pyridine, 2-(aminoethyl)pyridine, 4-aminopyridine, 3-aminopyridine, 3-(aminomethyl)pyridine, N-aminopropyl pyrrolidine 2-aminopicolines,

diaminopyridines, 2-aminopyrimidine, 4-aminopyrimidine, aminopyrazine, 3-amino-1,2,4-triazine, aminoquinolines, N,N dimethyldipropylenetriamine and 3,3'-diamino-N-methyl dipropylamine, N-methyl-1,3-propyldiamine

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Currently Amended) The catalyst of Claim 12 wherein the compound having an aldehyde moiety and an epoxide reactive moiety is a C3 to C30 aliphatic, aromatic or polyaromatic compound or a ring structure containing a heteroatom, with the proviso when the compound having an aldehyde and epoxide moiety contains a ring structure, the aldehyde moiety is bonded directly to the ring and the epoxide reactive moiety is bonded directly to the ring or bonded to the ring via a C3 to C6 linear or branched alkyl.

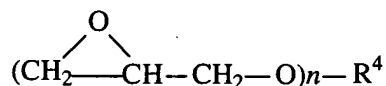
15. (Currently Amended) The catalyst of Claim 14 wherein the compound having an alcohol, amine, thiol or carboxylic acid moiety~~epoxide reactive moiety~~ and an aldehyde moiety is salicylaldehyde, vanillin, 5-(hydroxymethyl)-furfural, 3-hydroxybenzaldehyde, 4-hydroxybenzaldehyde, dihydroxybenzaldehydes, trihydroxybenzaldehydes, 2-carboxybenzaldehyde, 3-carboxybenzaldehyde or a mixture thereof.

16. (Currently Amended) The catalyst of Claim 12 wherein the compound having an alcohol, amine, thiol or carboxylic acid moiety and a ketone ~~and an epoxide functional moiety~~ is a C3 to C30 aliphatic, aromatic or polyaromatic compound or a ring structure containing a heteroatom with the proviso when the compound having a ketone and epoxide moieties contains a ring structure, the epoxide reactive moiety is bonded directly to the ring or bonded via a C1 to C6 linear or branched alkyl.

17. (Currently Amended) The catalyst of Claim ~~13-16~~ wherein the compound having an alcohol, amine, thiol or carboxylic acid moiety and a ketone ~~and epoxide~~

functionality moiety is 2'-hydroxyacetophenone, 4'-hydroxyacetophenone, 3'-hydroxyacetophenone, 3-acetyl-1-propanol, 4-hydroxy-3-methyl-2-butanone, 4-hydroxy-4-methyl-2-pentanone, 4'-hydroxyvalerophenone, dihydroxyacetophenone, benzyl-4-hydroxyphenylketone, acetovanillone, 3'-aminoacetophenone, 4'-aminoacetophenone, aminobenzophenone, 4-acetylbenzoic acid, 2-benzoylbenzoic acid or a mixture thereof.

18. (Currently Amended) The catalyst of Claim 12 wherein the compound containing at least one epoxide moiety is represented by the formula:



wherein R^4 is substituted or unsubstituted aromatic, aliphatic, cycloaliphatic or heterocyclic group and n has an average value of from 1 to 8.

19. (Currently Amended) The catalyst of Claim 12 wherein in step (a) the mixture further contains a phenol, cresol, bis phenol A, bisphenol F, a novolak polyol, ethylenediamine, 3,3'-diamino-N-methyl-dipropylamine, resorcinol, adipic acid, succinic acid, isophthalic acid, phthalic acid, terephthalic acid, acidic acid, or a combination thereof.

20. (Cancelled)

21. (Cancelled)

22. (Currently Amended) The catalyst of Claim 12 wherein 1 to 50 percent of the epoxy moieties present in step (a) are reacted with a compound containing an epoxy reactive group and a tertiary amine moieties.

23. (Cancelled)

24. (Withdrawn) A polyol composition containing from 99.9 to 50 percent by weight of a polyol compound or blend of polyols having a functionality of 2 to 8 and a hydroxyl number of from 20 to 800 and from 0.1 to 50 percent of a catalyst composition wherein the catalyst has at least one imine linkage and at least one tertiary amine group.

25. (Withdrawn) The polyol composition of Claim 24 wherein the polyol or blend of polyols has an average hydroxyl number of from 20 to 100.

26. (Withdrawn) The polyol composition of Claim 25 wherein the catalyst composition is a catalyst of any one of Claim 1 to 23.

27. (Withdrawn) A process for the production of a polyurethane product by reaction of a mixture of

(a) at least one organic polyisocyanate with

(b) a polyol composition wherein the polyol has a calculated nominal functionality between 2 to 8 and a hydroxyl number of from 20 to 800 and

(c) at least one non-fugitive catalyst containing at least one imine linkage and at least one tertiary amine group

(d) optionally in the presence of another catalyst and/or blowing agent; and

(e) optionally additives or auxiliary agents known per se for the production of polyurethane foams, elastomers or coatings.

28. (Withdrawn) The process of Claim 27 wherein the catalyst is present in an amount from 0.1 to 50 weight percent of the total weight of (b) and (c).

29. (Withdrawn) The process of claim 27 wherein the catalyst is a catalyst of any one of Claims 1 to 23.

30. (Withdrawn) The process of Claim 29 for producing a flexible polyurethane foam wherein the polyol composition has a hydroxyl number from 20 to 100 and the blowing agent is water in an amount of 0.2 to 10 weight percent of the polyol.

31. (Withdrawn) A flexible polyurethane foam made by the process of Claim 30.

32. (Withdrawn) The process of Claim 29 for producing a rigid polyurethane foam where the polyol composition has an average hydroxyl number from 200 to 1000 and the blowing agent is water in combination with a hydrocarbon or a hydrofluorocarbon.

33. (Withdrawn) A rigid polyurethane foam made by the process of Claim 32.